Intergroup contact and rice allocation via a modified dictator game in rural Cameroon

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Abstract

Economic games in field settings have been subject to criticism concerning their ecological validity. We use social identity theory and the intergroup contact hypothesis as a framework to illustrate how economic games can be applied to field settings with higher ecological validity. A quasi-experiment in two rural Cameroonian villages studied participants' allocation of rice to co-inhabitants of their village. The villages are characterized by different degrees of contact between the ethnic groups and the sexes. Our results indicate that women who are segregated from each other disadvantage other women more than men, or women who experience higher amounts of contact. These findings are interesting from a theoretical and methodological perspective since we utilized a non-monetary stake in naturalistic intergroup settings.

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Experimental economic games have been played with Sukuma and Pimbwe people in Tanzania (Paciotti & Hadley, 2003), with Hadza in Tanzania (Marlowe, 2004), Torguud and Kazakh in the Republic of Mongolia (Gil-White, 2004) and with the inhabitants of villages in the Commonwealth of Dominica (Macfarlan, 2011). Such games are useful for measuring aspects of social norms and preferences. By allowing reciprocity, inequality aversion and altruism to become visible in a quantifiable manner, economic games have become increasingly important in anthropology since the mid-1990s (cf. Chibnik, 2005; Camerer & Fehr, 2004).

This study uses the Dictator Game, which consists of a 'one person decision task': The players (dictators) individually distribute a stake between themselves and their recipient. The recipient cannot object to the dictator's allocation; the resources are split according to the dictator's wishes. Since the dictator does not have to fear repercussions from the recipient, the Dictator Game is usually seen as providing a pure measure of altruism (Camerer & Fehr, 2004). In the classic Dictator Game the dictators and the recipients do not know each other's identity; it is seen as a crucial characteristic of the game that the players remain anonymous (cf. Henrich, Boyd, Bowles, Camerer, Fehr, Gintis & McElreath, 2001).

Self-interest suggests that the dictator keeps the entire stake and gives nothing to the recipient. However, many studies obtained different results (see Bolton, Katok & Zwick, 1998; Henrich et al., 2001). Bolton et al. (1998) suggest that allocations arise from concerns for fair distribution on the part of dictators. These fairness concerns originate from personal and social rules that

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impact on self-interested behavior. However, when dictators distribute a gift among multiple recipients, individual dictators show little tendency towards fairness (Bolton et al., 1998).

A possible explanation comes from social identity theory (Tajfel & Turner, 1979). Social identities are based on an individual's membership in relevant social groups. The groups a person identifies with are ingroups and can include one's nationality, religion, gender and ethnicity. In contrast, outgroups are groups other than one's own; individuals tend to distinguish between 'us' and 'them' with important attitudinal and behavioral consequences (see Brehm, Kassin & Fein, 2005).

Even if the distinction between in- and outgroup is based on minimal and irrelevant criteria, individuals tend to favor ingroup over outgroup members (Tajfel, Billig, Bundy & Flament, 1971). Using a student sample, Ben-Ner, McCall, Stephane and Wang (2009) demonstrated clear ingroup-favoritism in imaginary and real Dictator Game giving. Unfortunately, only their second study involved allocating an actual monetary stake. Goette, Huffmann and Meier (2010) compared the impact of random assignment to minimal versus real groups on the allocation of a monetary stake in Swiss army officer candidate trainees. While both types of group membership lead to ingroup favoritism, ingroup favoritism was stronger for army recruits who had been allocated to real social groups as compared to minimal groups. Ruffle and Sosis (2006) conducted an experiment among Israeli Kibbutzim and city residents. Kibbutzim showed clear ingroup favoritism and there were no significant differences between Kibbutzims' and city residents' allocations of a monetary resource in a cooperative, simultaneous game.

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Gil-White (2004) investigated whether players favored ingroup over outgroup members in an Ultimatum Game. Contrary to the findings above, the players favored the ethnic outgroup. Yet, it is important to note that Ultimatum Games allow repercussions from the recipient which is not true for Dictator Games. Yamagishi and Kiyonari (2000) showed that ingroup favoritism can be overridden by reciprocity expectations. While in a simultaneous game – i.e. not allowing for reciprocity – participants favored members of their own group; in a supposedly sequential game – allowing for reciprocity – this ingroup favoritism disappeared.

Enabling interactions between the members of rival groups can reduce discrimination (e.g., Allport, 1954, Cook, 1978). Allport (1954) concluded that people who live together with outgroup members are friendlier, less fearful and stereotype less than people living in segregated areas. Communication and joint community enterprises are important to create conditions under which friendly contacts and correct social perceptions can develop.

The current research

Economic games sometimes lack external and ecological validity (e.g. Benz & Meier, 2008; Levitt & List, 2007). Gurven and Winking (2008) argue that the anonymity requirement and the artificial setting undermine the links between findings obtained in non-laboratory research. Thus, our decisions to relax the anonymity condition and to use non-monetary resources for allocation may enhance ecological validity (cf. Alvard, 2004; Gurven & Winking, 2008; Henrich et al., 2001). One alteration to the commonly used game protocol is the use of rice as stake in this study (see also Alvard, 2004).

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There are several reasons why we chose rice as stake: In Cameroon 48% of the population live below the poverty line (CIA, 2012), with most of the poor being in the rural areas such as the villages we have studied. We found it ethically problematic to introduce monetary stakes to a research sample in these poor communities. Another practical obstacle was the lack of small change. It was difficult to consistently change bank notes to coins. We used rice since it was easily available, valued and easy to share.

The second procedural alteration was the removal of recipient anonymity. The easiest and most natural way to make group membership salient was to name the recipient. We felt that it would be artificial, and risk biasing the results to refer to recipients by their group memberships only.

The intergroup contact hypothesis (e.g. Allport, 1954; Pettigrew, 1998) was designed to overcome racial prejudice and discrimination. Intergroup contact can challenge intergroup discrimination if members of the different groups have the opportunity to engage in positive contact. Our study tests this assumption in two different field sites in the Nigeria-Cameroon borderland, which differ in relative frequency of contact between the sexes and the cohabiting ethnic groups. We investigated whether a) dictators distinguish between different recipients based on the recipients' group membership (ethnicity, sex) and whether b) the allocation of rice is different for the two villages. This question is particularly interesting with reference to c) female rice allocation, since there is more contact between the women of Somié than between the women of Oumyari.

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Study Sites

Oumyari

Oumyari is located in the Adamawa Region of Cameroon, close to the Nigerian border. The closest administrative center is the town Banyo, approximately 15km away. The population of Oumyari comprises mainly of peasant farmers, who grow maize and manioc principally for subsidence but also as cash crops. Approximately 500 inhabitants live in the village, which is made up of thirteen hamlets. The two main ethnic groups in Oumyari are the Wawa and the Fulbe. Wawa people live in eleven of the hamlets. The remaining two hamlets are exclusively populated by Fulbe people. The Wawa hamlets from which participants were chosen are exclusively populated by Wawa. The names of Fulbe outgroup recipients were chosen from people living in the two Fulbe-only hamlets. The Dictator Game in Oumyari was run by Thomae and Griffiths together with local assistants.

Fulbe and Wawa have a difficult past. The Wawa are part of the original population of the area, which was invaded by the Fulbe approximately 150 years ago. The Wawa subsequently acceded to Fulbe dominance (see Gausset, 1999). All of the Fulbe and mixed population hamlets are located on the northern side of the small river that runs through Oumyari while most of the Wawa hamlets are located on the southern side. The Fulbe are regarded as foreigners and strangers by the older Wawa. On most days Wawa and Fulbe do not interact. Their hamlets and surrounding forest areas are separate from each other. However, on Fridays men (and a few women) from all hamlets come to the central Wawa hamlet to take a lorry to the market in

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Banyo.

For both Wawa and Fulbe there is strong gender segregation. A tradition for young men in Oumyari includes building a house. They then construct a second house and a kitchen for a potential wife on the same piece of land and finally built a fence around this compound once a marriage has been agreed upon. To a great extent women's lives are lived within these compounds. Women need a reason such as fetching water or going to the fields if they want to leave their compound. Women visit each other within compounds but do not socialize outside them. Contrastingly, men's lives are lived both within and beyond the compounds. Men meet in the mosque, in the streets, the hamlets' centers and on the numerous football fields of the village. Both men and women work in the fields; however, usually they work them at different times or in separate locations. Apart from these duties women require their husband's permission to leave their compound. Men decide freely about their own activities. For more detailed information on the historical context between the Wawa and the Fulbe, please refer to Gausset (1998; 1999).

Somié

Somié village is also located in the Adamawa Region, approximately 90km away from Bankim, its administrative center, to the South of Banyo. The population is mainly comprised of peasant farmers, who are self-sufficient in staple crops growing maize, ground nuts and coffee as cash crops. The village population has grown from approximately 2000 inhabitants in 1986 to approximately 5000 inhabitants today. The village center where the game was played has a population of approximately 2000 inhabitants and is inhabited by Cameroonian Mambila with a

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large number of Nigerian Mambila who immigrated over the last 20 years, as well as a number of Fulbe and other ethnicities. The local assistant who ran the Dictator Game in Somié is a Mambila male, approximately 45 years of age who has worked for Zeitlyn on many occasions conducting village censuses and mapping exercises.

In 1985 Somié was almost exclusively Mambila. The main change since then is that large numbers of Nigerian Mambila moved in and built houses adjacent to the village, thereby expanding it. Although Cameroonian Mambila are mainly Christian with a sizeable minority of Muslims, Nigerian Mambila are almost exclusively Muslim. When Fulbe arrive they tend to live with or near their co-religionists. Until approximately 1995 Fulbe came for dry season transhumance only. Since then some have been staying throughout the year and a few families have settled permanently. There are no hamlets which are ethnically homogenous. Some Fulbe live in outlying hamlets, others in the village center.

Women tend to live separate lives from men, giving them autonomy. However, on market days and on Sundays, there is mixed social activity revolving around the drinking of local maize beer and the meetings of revolving credit associations (see Ardener, 1964; Zeitlyn, 2003). Most revolving credit associations are mixed. About two thirds of the village inhabitants are Christians and services and related activities are mixed. Some Mambila women have married Fulbe men and subsequently converted to Islam, coming to lead more sheltered lives in the process. However, these women still farm and go to market. Zeitlyn is not aware of any Fulbe women who have married Mambila men. Both sexes are involved in farming but they do so separately. Women's tasks involve cooking and childcare. Men's tasks include building houses.

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Both sexes fish. Generally, and in contrast to Oumyari, women in Somié can move freely e.g. going to the market or visiting friends. More information about the social structure of Somie may be found in Zeitlyn, Mial and Mbe (2000) and Zeitlyn (1994).

Food sharing norms

Rice in the villages is an expensive crop and many families reserve it for special occasions. On a daily basis, the villagers' diet is based on other crops, particularly manioc and sweet potatoes. Rice consumption is similar to the consumption of meat. Nevertheless, rice is usually available from village shops.

Neither village has norms to share raw or uncooked food such as the rice in the experiment. However, there is a sharing norm for cooked food: if someone visits when people are eating then there is a very strong injunction to offer them food and it is very impolite for a visitor to refuse to eat. Visitors usually have a small taster so as to not imply suspicion that the offered food is poisoned. In both villages the offer of cooked food by the hosts serves to disprove witchcraft by assuring the visitor (who accepts this by eating) that no 'sweet meat' (i.e. human flesh) is eaten (see Zeitlyn, 2003).

Method

Participants

Twenty Wawa men and twenty Wawa women in Oumyari and twenty Mambila men and twenty Mambila women in Somié participated as dictators in this experiment. We selected participants by asking local teenagers to compile a list of adult women and men in each village.

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We instructed these children to list names of 30 ingroup and 10 outgroup adults, with equal numbers of males and females. Thus, participants were not selected randomly and are not representative of the village populations. Any adult villager was eligible for participation.

While this sampling strategy worked well in Oumyari, the list for Somié resulted in unequal numbers in the experimental conditions. Data on age and marital status were not available (see Zeitlyn & Bagg, 2000)[1]. Due to the sampling method it appeared that adults of childbearing age were overrepresented. All participants invited to play the game agreed to participate.

Design

The ethnic groups of the participants (Wawa, Mambila) were defined as the ingroups and in both cases the Fulbe were defined as the outgroup. The ingroup participants allocated rice either to an ingroup or to an outgroup member. The study had a 2 (village) x 2 (sex of recipient) x 2 (ethnic group of recipient) x 2 (sex of dictator) quasi-experimental design. The participants (dictators) were matched with recipients. The dependent variable was the amount of rice participants allocated to their respective recipient from a stake of 1 kilogram of rice. We measured the quantity of rice using a food scale.

Procedure

The game was played in each village over 2 consecutive days to avoid contamination through communication among participants. We filled forty plastic bags with 1 kilogram of rice each. Since there is no food sharing norm for uncooked food in either village, we used the translation of 'share' (Mambila 'kop', Wawa 'gɔ̆g') in our instructions: *"Here is 1 kilogram of rice. Please*

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share it, one part is for you, one part for [the recipient].” Neither local word for ‘share’ implies halves.

We visited all allocators at home. All allocators knew their recipients personally but we did not observe attempts by the allocators to contact recipients (we did not undertake specific steps to mitigate this, deeming it an acceptable risk in the social context). The recipients did not know the identity of the allocators. All participants appeared to understand the game instructions and we did not ask comprehension questions or conduct post-game interviews. Similar to the uncontextualised game in Lesorogol’s (2007) research, the allocators made no reference to any particular norm. In general, allocators commented very little on the game and did not explain their offering choices.

We initially intended that participants poured the rice for the recipient into a different plastic bag. However, the allocators preferred to pour as much rice as they wanted for themselves into a dish and leave the recipient’s share in the original plastic bag. After data collection was completed, we weighed each rice bag and recorded the result. Later, we visited all recipients to hand them over their rice anonymously.

Results

The average amount of rice allocated was 444.00g (*SD* = 74.00), ranging from 162 grams to 560 grams. A univariate analysis of variance was used to analyze the impact of village, sex of allocator, sex of recipient, ethnic group membership of recipient and all possible interaction effects on the amount of rice allocated. A complete table for the ANOVA results can be found as

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supplementary materials online. This analysis yielded a significant main effect of sex of allocator ($F(1,64) = 7.98$, $p = .006$, $\eta^2 = .11$), indicating that men allocated larger amounts of rice (M = 461.00, SD = 46.56) than women (M = 428.00, SD = 91.42). There was no significant main effect of village in the allocation of rice ($F(1,64) = .29$, $p = .590$, $\eta^2 = .01$), indicating that allocators in Oumyari (M = 439.00, SD = 72.23, ~ 44%) did not allocate the rice significantly differently from allocators in Somié (M = 449.00, SD = 76.33, ~ 45%).

Village and sex of recipient interacted significantly ($F(1,64) = 8.17$, $p = .006$, $\eta^2 = .11$). A planned comparison revealed that women in Oumyari received significantly less rice (M = 427.00, SD = 76.03) than women in Somié (M = 474.00, SD = 92.85, $p = .046$). This finding supports our hypothesis that participants would be less generous towards women in Oumyari, where women are less visible. In contrast, women are better known to other village inhabitants in Somié. Figure 1 shows this pattern of results. However, this finding needs to be treated with caution since this interaction effect is qualified by a significant three-way interaction effect between village, sex of allocator and sex of recipient.

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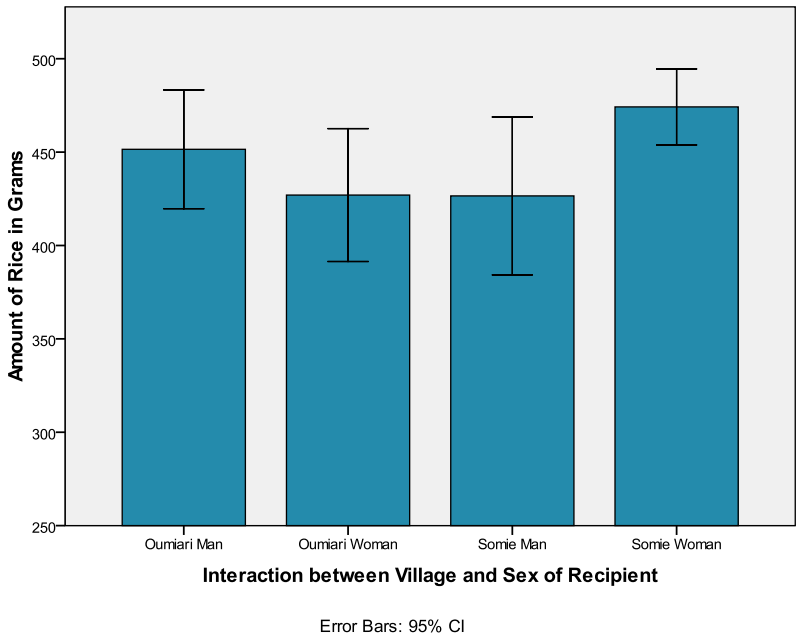

Figure 1. The Amount of Rice allocated by Village and Sex of Recipient.

Village and ethnic group membership of recipient also interacted significantly ($F(1,64) = 14.01$, $p < .001$, $\eta^2 = .18$). We compared the allocation of rice to the in- versus outgroup in both villages using planned comparisons. The Fulbe outgroup in Oumyari received significantly less rice ($M = 409.50$, $SD = 77.42$) than the Fulbe outgroup in Somié ($M = 470.00$ $SD = 46.11$, $p = .008$). This finding supports the hypothesis that in Somié, the outgroup is treated in a more altruistic manner. This pattern of results is shown in Figure 2.

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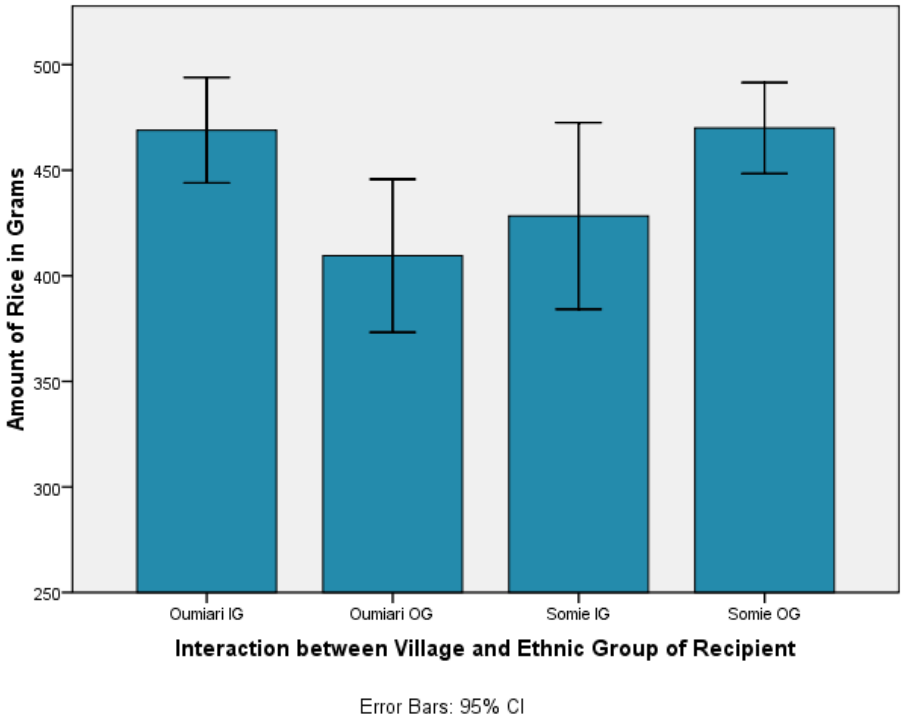

Figure 2. The Amount of Rice allocated by Village and Ethnic Group of Recipient

Moreover, sex of recipient and ethnic group membership of the recipient interacted significantly ($F(1,64) = 9.72$, $p = .003$, $\eta^2 = .13$). Further analysis revealed that participants did not discriminate between ingroup and outgroup men (ingroup men: $M = 425.00$, $SD = 94.28$; outgroup men: $M = 453.50$, $SD = 64.95$, $p = .206$) but discriminated between ingroup and outgroup women by favoring ingroup women ($M = 475.00$, $SD = 45.23$) over outgroup women ($M = 426.00$, $SD = 73.69$, $p = .037$). This pattern of rice allocation can be seen in Figure 3.

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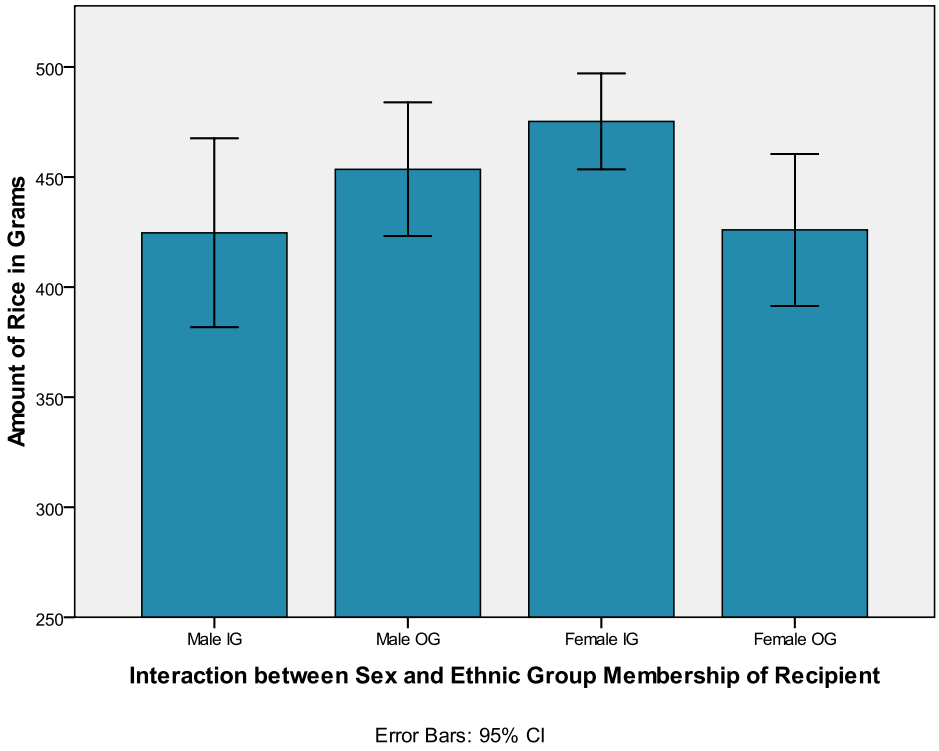

Figure 3. The Amount of Rice allocated by Sex and Ethnic Group Membership of Recipient.

Finally, there was a three-way interaction between village, sex of allocator and sex of recipient on rice allocation ($F(1,64) = 4.92$, $p = .030$, $\eta^2 = .07$). In line with our hypothesis a planned contrast revealed that there was a significant difference between the amount of rice allocated by women to women in Oumyari ($M = 391.00$, $SD = 79.10$) and the amount of rice allocated by women to women in Somié ($M = 473.00$, $SD = 46.71$, $p = .006$). This was not true for male-male allocation in the two villages (Oumyari: $M = 458.00$, $SD = 46.86$; Somié: $M = 454.00$, $SD = 47.18$, $p = .897$). All means and standard deviations are available in Table 1.

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Table 1

Rice Allocation by Village, Sex of Allocator and Sex of Recipient

Village							
Oumyari				Somié			
Sex of Allocator							
Male		Female		Male		Female	
Sex of Recipient							
Male	Female	Male	Female	Male	Female	Male	Female
458.00	463.00	463.00	391.00	454.00	478.00	406.00	473.00
(46.86)	(55.39)	(86.31)	(79.10)	(47.18)	(34.17)	(136.12)	(46.71)
N = 10	N = 10	N = 10	N = 10	N = 14	N = 6	N = 7	N = 13

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Discussion

The aim of this study was to increase ecological validity of the Dictator Game by relaxing the anonymity requirement for the dictator and using rice as the stake instead of money. The findings supported the hypotheses derived from previous research (Allport, 1954; Bolton et al., 1998; Tajfel & Turner, 1979).

In earlier research, women donated significantly more than men to an anonymous partner (Eckel & Grossman, 1998). In our study, men allocated larger amounts of rice than women, which may be due to the choice of rice as the stake: Women provide approximately 70% of all agricultural labor and produce approximately 90% of the food in Sub-Saharan Africa (UNIFEM, 2008). In rural Africa, women perform 80% of domestic tasks including preparing and cooking meals and processing and storing food. Thus, for women, rice may have more importance than for men since they tended to retain larger amounts of the stake. Future research may wish to replicate this study in order to clarify the roles of specific stakes in the allocations made by dictators.

In Oumyari, male recipients received more rice than female recipients, while the opposite was true in Somié. One explanation is the reduced visibility of women, hence, the reduced contact of both sexes with women in Oumyari as compared to Somié. Across all allocators there is a preference of ingroup over outgroup women in the allocated amount of rice. Our argument is further corroborated by the finding that particularly women in Oumyari discriminate against outgroup women, which is not the case in Somié which is more integrated. Yet it is important to

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acknowledge that there are limitations to our findings. Future research may wish to control for confounding variables by ensuring that the included villages have inhabitants of the same ingroup, religion, intergroup history and other background variables (see Ensminger, 2004).

Games aim to elicit 'pure' behavior by isolating it from social contexts. However, Lesorogol (2007) demonstrated that allocators adhered to a meat-sharing norm in a contextualized but not in an uncontextualized game. She argues that the likelihood of normative behavior depends on the significance of the norm invoked by the game situation. Similarly, other factors, such as the experimenter observing the allocation might induce guilt or shame in the allocator and thus curb selfish behavior (e.g. Koch & Normann, 2008). Koch and Normann's results indicate that approximately half of dictator giving is externally motivated. Further research is needed to rule out such factors in the explanation of our data.

Henrich et al. (2005, p. 813) state that 'extensive market interactions may accustom individuals to the idea that strangers can be trusted […].' Since there was no overall difference in rice allocation between the two villages but a difference in the allocation to visible versus less visible female villagers, we propose that our findings are based on the amount of interaction taking place with village co-inhabitants. Trust is an outcome of social interaction and contact (Hewstone, Cairns, Voci, Hamberger & Niens, 2006). We suggest that the higher involvement in market participation by women in Somié (in contrast to Oumyari) may constitute a way of encouraging social contact and interaction, thus building trust and reducing discrimination.

There is evidence that when allocators distribute a stake between multiple recipients, most

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allocators tend to discriminate between different recipients (Bolton et al., 1998). This article attempted to systemize ideas as to why dictators treat multiple recipients unequally. Even though there are other important differences such as religious affiliation and the extent and history of the relative domination by/independence from the Fulbe between the two villages, we believe that the different degrees of contact in these communities may play a vital part in the differential treatment of in- and outgroup recipients.

Finally, we wish to emphasize the importance of theoretically driven tests in anthropological settings. We believe that specifically in cases where communities at field sites are composed of different ethnic, religious or other groups, the social psychological literature on group processes and intergroup relations (e.g. Turner & Crisp, 2010) can make a valuable contribution to anthropology. In addition, social psychological research can benefit from its application to novel, out-of-laboratory settings. In particular, our study enriches social psychological research by applying behavioral measures and, avoiding convenience samples, using a non-student sample in a natural setting (see Henrich, Heine & Norenzayan, 2010). There are confounding influences in such field settings, which may constitute a threat to the theoretical interpretation and validity of the findings. However, we think that the application of experimental methodology can make an interesting contribution to research in field settings.

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References

Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MA: Addison-Wesley.

Alvard, M. S. (2004). The ultimatum game, fairness, and cooperation among big game hunters. *Foundations of human sociality: economic experiments and ethnographic evidence from fifteen small-scale societies*, 413–435.

Ardener, S. (1964). The comparative study of rotating credit associations. *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, *94*(2), 201-229. doi:10.2307/2844382

Ben-Ner, A., McCall, B. P., Stephane, M., & Wang, H. (2009). Identity and in-group/out-group differentiation in work and giving behaviors: Experimental evidence. Journal of Economic Behavior & Organization, 72(1), 153–170.

Benz, M., & Meier, S. (2008). Do people behave in experiments as in the field? Evidence from donations. *Experimental Economics*, *11*(3), 268–281.

Bolton, G. E., Katok, E., & Zwick, R. (1998). Dictator game giving: Rules of fairness versus acts of kindness. *International Journal of Game Theory*, *27*(2), 269–299.

Brehm, S. S., Kassin, S., & Fein, S. (2005). *Social psychology* (6th ed.). Houghton Mifflin Harcourt (HMH).

Camerer, C. F., & Fehr, E. (2004). Measuring social norms and preferences using experimental games: A guide for social scientists. *Foundations of human sociality: economic experiments and ethnographic evidence from fifteen small-scale societies*, 55–95.

Chibnik, M. (2005). Experimental economics in anthropology: A critical assessment. *American*

Published as:
Thomae, M., Zeitlyn, D., Griffiths, S.S. & Van Vugt, M. (2013). Intergroup contact and the rice allocation via a modified dictator game in rural Cameroon. *Field Methods, 25 (1),* 74-90. doi. 10.1177/1525822X12466981

Ethnologist, *32*(2), 198-209. doi:10.1525/ae.2005.32.2.198

CIA. (2012). CIA - The World Factbook. Retrieved January 5, 2012, from https://www.cia.gov/library/publications/the-world-factbook/geos/cm.html

Cook, S. W. (1978). Interpersonal and attitudinal outcomes in cooperating interracial groups. *Journal of Research and Development in Education*, *12*(1), 97–113.

Eckel, C. C., & Grossman, P. J. (1998). Are women less selfish than men?: Evidence from dictator experiments. *The Economic Journal*, *108*(448), 726–735.

Ensminger, J. (2004). Market integration and fairness: Evidence from ultimatum, dictator, and public goods experiments in East Africa. *Foundations of human sociality: economic experiments and ethnographic evidence from fifteen small-scale societies*, 356–381.

Gausset, Q. (1998). Historical account or discourse on identity? A reexamination of Fulbe hegemony and autochthonous submission in Banyo. *History in Africa, 25,* 93-110.

Gausset, Q. (1999). Islam or Christianity? The choices of the Wawa and the Kwanja of Cameroon. *Africa* 69(2), 257-78.

Gil-White, F. J. (2004). Ultimatum game with ethnicity manipulation: Problems faced doing field economic experiments and their solutions. *Field Methods*, *16*(2), 157 -183. doi:10.1177/1525822X03262357

Goette, L., Huffman, D., & Meier, S. (2010). The impact of social ties on group interactions: Evidence from minimal groups and randomly assigned real groups. Working Paper.

Gurven, M., & Winking, J. (2008). Collective action in action: Prosocial behavior in and out of the laboratory. *American Anthropologist*, *110*(2), 179–190.

Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., Gintis, H., & McElreath, R. (2001). In

Published as:
Thomae, M., Zeitlyn, D., Griffiths, S.S. & Van Vugt, M. (2013). Intergroup contact and the rice allocation via a modified dictator game in rural Cameroon. *Field Methods, 25 (1),* 74-90. doi. 10.1177/1525822X12466981

search of homo economicus: Behavioral experiments in 15 small-scale societies. *American Economic Review, 91*(2), 73–78.

Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., Gintis, H., McElreath, R., Alvard, M., Barr, A., Ensminger, J., Smith Henrich, N., Hill, K., Gil-White, F., Gurven, M., Marlowe, F.W., Patton, J.Q. & Tracer, D. (2005). "Economic man" in cross-cultural perspective: Behavioral experiments in 15 small-scale societies. *Behavioral and brain Sciences, 28,* 795-855.

Henrich, J., Heine, S. J. & Norenzayan, A. (2010). The weirdest people in the world. *Behavioral and Brain Sciences, 33*(2-3), 61–83.

Hewstone, M., Cairns, E., Voci, A., Hamberger, J., & Niens, U. (2006). Intergroup contact, forgiveness, and experience of "The Troubles" in Northern Ireland. *Journal of Social Issues*, *62*(1), 99-120. doi:10.1111/j.1540-4560.2006.00441.x

Koch, A. K., & Normann, H.-T. (2008). Giving in dictator games: Regard for others or regard by others. Southern Economic Journal, 75(1), 223–231.

Lesorogol, C. K. (2007). Bringing norms in: The role of context in experimental dictator games. *Current Anthropology, 48*(6), 920–926.

Levitt, S. D. & List, J. A. (2007). What do laboratory experiments measuring social preferences reveal about the real world? *Journal of Economic Perspectives, 21*(2). 153-174.

Macfarlan, S. J. (2011). The dual-role method and ultimatum game performance. *Field Methods. 23*(1). 102-114. Doi:10.1177/1525822X10383546.

Marlowe, F. W. (2004). Dictators and ultimatums in an egalitarian society of hunter-gatherers: The Hadza of Tanzania. *Foundations of human sociality: Economic experiments and*

Published as:
Thomae, M., Zeitlyn, D., Griffiths, S.S. & Van Vugt, M. (2013). Intergroup contact and the rice allocation via a modified dictator game in rural Cameroon. *Field Methods, 25 (1),* 74-90. doi. 10.1177/1525822X12466981

ethnographic evidence from fifteen small-scale societies, 168–93.

Paciotti, B., & Hadley, C. (2003). The ultimatum game among sympatric ethnic groups in southwestern Tanzania: Ethnic variation and institutional scope. *Current Anthropology*, *44*, 427–432.

Ruffle, B. J., & Sosis, R. (2006). Cooperation and the in-group-out-group bias: A field test on Israeli kibbutz members and city residents. Journal of Economic Behavior & Organization, 60(2), 147–163.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. *The social psychology of intergroup relations*. pp. 33-48. Monterey, CA: Brooks/Cole

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology, 1*(2), 149–178.

Turner, R. N., & Crisp, R. J. (2010). *Group processes and intergroup relations*. John Wiley & Sons, Limited.

UNIFEM. (2008). Securing the rights and livelihoods of rural women in Africa in the context of the food crisis and climate change. Retrieved from http://www.unwomen.org.au/LiteratureRetrieve.aspx?ID=81467

Yamagishi, T., & Kiyonari, T. (2000). The group as the container of generalized reciprocity. Social Psychology Quarterly, 63(2), 116–132.

Zeitlyn D., Mial, N. & Mbe, C. (2000). Trois Études sur les Mambila de Somié, Cameroun, *Groupe de Recherches sur l'Afrique Francophone*, Boston, Mass.

Zeitlyn, D. (1994). Sua in Somie. Aspects of Mambila Traditional Religion. Sankt Augustin: Academia Verlag. Germany.

Published as:
Thomae, M., Zeitlyn, D., Griffiths, S.S. & Van Vugt, M. (2013). Intergroup contact and the rice allocation via a modified dictator game in rural Cameroon. *Field Methods, 25 (1),* 74-90. doi. 10.1177/1525822X12466981

Zeitlyn, D. (2003). The talk goes outside: Argument, privacy and power in Mambila society. Towards a sociology of embedded praxis. *Africa*, *73*(4), 606–623.

Zeitlyn, D., & Bagg, J. (2000). Mambila demography from archival sources. *History in Africa*, *27*, 423-436.

Published as:
Thomae, M., Zeitlyn, D., Griffiths, S.S. & Van Vugt, M. (2013). Intergroup contact and the rice allocation via a modified dictator game in rural Cameroon. *Field Methods, 25 (1),* 74-90. doi. 10.1177/1525822X12466981

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[1] Questions on demographic data are delicate in various village contexts and are usually asked only by bureaucrats or medical personnel. If we had attempted to ask them it would have changed the exercise from a relatively light hearted game into a far more charged situation, prompting suspicion and evasion (typical responses to bureaucrats). In the end we took the view that although we could have attempted to collect such information in a separate data collection exercise, the difficulty in obtaining reliable data did not justify the additional analytic purchase of such data, especially since this is pilot research, seeking to demonstrate that the method can be

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applied in these sorts of field environment.

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